



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,818	03/29/2001	Hiroataka Wada	017661/0175	1448
22428	7590	03/30/2004		
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER HAROLD, JEFFEREY F	
			ART UNIT	PAPER NUMBER
			2644	
			DATE MAILED: 03/30/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,818

Applicant(s)

WADA, HIROTAKA

Examiner

Jefferey F. Harold

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Z.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references listed in the Information Disclosure Statement submitted on December 31, 2003, have been considered by the examiner (see attached PTO-1449).

Drawings

3. The drawings were received on 13 November 2002. These drawings are not acceptable. Figures 4 and 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: page 2, line 23 reads "line 23", however, figure 4 indicates that the element is line 24; page 5, lines 2, 3 and 6 read "transistor", however, figure 2 discloses the electrical symbol for a transformer, the examiner suggests inserting "transformer". Appropriate correction is required.

Claim Objections

5. ***Claims 3 and 7*** are objected to because of the following informalities:

Regarding **claims 3 and 7**, line 2, the claim states "form", however the examiner suggest "for". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. ***Claims 1 and 3-6*** are rejected under 35 U.S.C. 102(e) as being anticipated by Jenness (United States Patent 6,404,774).

Regarding **claim 1**, Jenness discloses a process for selectively using low frequency spectrum for providing both ADSL and POTS service. In addition, Jenness discloses an integrated line card (ILC) (10), wherein the integrated line card reads on the claimed "communication device", as disclosed at column 4, lines 27-28 and exhibited in figure 1, comprising: a control processor (14), which reads on "cut-off frequency switching means", as disclosed at column 11, lines 4-34 and exhibited in figure 1; for switching between a classical ADSL and POTS mode of transmission and an ADSL data only mode of transmission, which reads on "switching the cut-off

Art Unit: 2644

frequency", wherein the classical ADSL and POTS mode of transmission and an ADSL data only mode of transmission have different cut-off frequencies for the ADSL data.

Further, during the classical ADSL and POTS mode of transmission the ADSL signal is transmitted at frequencies above 24kHz and the POTS signal is transmitted at a frequency between 0-4kHz and during the ADSL data only mode of transmission the ADSL data is transmitted at frequencies above 0kHz, POTS frequency ranges and above, thus switching the cut-off frequency from 24kHz to 0kHz for ADSL data, as disclosed at column 11, lines 4-34 and exhibited in figure 3;, which reads on claimed "communication data", at the subscriber loop (52), which reads on the claimed "communication line", as disclosed at column 11, line 34 and exhibited in figures 1 and 2.

Regarding **claim 3**, Jenness discloses everything claimed as applied above (see claim 1), in addition Jenness discloses control processor 14 for determining whether or not the ATU-R has the control processor, in advance of sending and receiving of the ADSK data, which reads on the claimed "confirming means for confirming whether or not a communication partner has the cut-off frequency switching means, in advance of sending and receiving of communication data", wherein the control processor 14, which reads on the claimed "confirming means", sends state transitions on the ib 18, indicator bit, used to advertise the ATU-C's capability to support the use of the low frequency spectrum, and upon detection of these state transitions, the ATU-R, which reads on the claimed "communication partner", then waits for the ib18 information bit to indicate the idle state of the subscriber loop, and then transmits a composite signal in the low

Art Unit: 2644

frequency spectrum; detection of the signal, which reads on the claimed "confirming", at the ATU-C provides confirmation of the ATU-R's capability to support the use of the low frequency spectrum via control processor (114), in advance of sending and receiving ADSL data, as disclosed at column 12, lines 6-56 and exhibited in figures 1, 2 and 4.

Regarding **claim 4**, Jenness discloses everything claimed as applied above (see claim 3), in addition Jenness discloses wherein the control processor (14) of ATU-C is structured such that synchronization at the beginning of actual data flow using the added low spectrum frequency capacity of control processor (14) is carried out in accordance with the results of detection of the composite signal, which reads on the claimed "confirming means is structured such that switching control of the cut-off frequency switching means is carried out in accordance with results of confirmation", wherein the control processor (14) reads on the claimed "confirming means"; synchronization reads on claimed "switching control"; control processor (14) reads on claimed "cut-off frequency switching means"; and detection of the composite signal reads on the claimed "results of confirmation", as disclosed at column 12, lines 45-56 and exhibited in figure 4.

Regarding **claim 5**, Jenness discloses everything claimed as applied above (see claim 1), in addition Jenness discloses wherein subscriber loop (52) is a telephone line, and the integrated central office line circuits (ILCs) is a modem, which reads on the claimed "wherein the communication line is a telephone line, and the communication device is a modem", wherein the subscriber loop reads on the claimed "communication line" which is inherently a telephone line as evidenced by the fact that one of ordinary

skill in the art would have recognized that in a PSTN system copper twisted pairs of telephone lines would have been provided for the purpose of communication between a telephone subscriber and the PSTN, and the ILC is a modem, as disclosed at column 3, lines 59-62 and exhibited in figure 1.

Regarding **claim 6**, Jenness discloses everything claimed as applied above (see claim 5), in addition Jenness discloses wherein ADSL type communication, which carries out ADSL data via the inherent telephone line, is carried out, which reads on "wherein xDSL type communication, which carries out data communication via the telephone line, is carried out", wherein ADSL communication reads on the claimed "xDSL type communication", ADSL data reads on the claimed "data communication", as disclosed at column 3, lines 55-63 and exhibited in figure 1.

7. **Claims 1 and 2** are rejected under 35 U.S.C. 102(e) as being anticipated by Williamson et al. (United States Patent 6,477,249), herein after referenced as Williamson.

Regarding **claim 1**, Williamson discloses a communications signal splitter and filter. In addition Williamson discloses network for delivering digital subscriber line data and conventional POTS telephone to a subscriber premises, which reads on the claimed "communication device", as disclosed at column 4, lines 60-62 and exhibited in figure 1, comprising: a switch (sw), which reads on the claimed "cut-off frequency switching means", as disclosed at column 8, lines 48-50 and 61-67 and exhibited in

Art Unit: 2644

figure 13 for switching a cut-off frequency for POTS data at a communication line (22), as disclosed at column 3, lines 45-67, wherein POTS reads on "communication data".

Regarding **claim 2**, Williamson discloses everything claimed as applied above (see claim 1), in addition Williamson discloses wherein the switch (sw), which reads on the "cut-off frequency switching means", is structured to carry out switching of an inherent D.C. capacitor C1, which reads on claimed "D.C. cut-off capacitor", as disclosed at column 8, lines 48-50 and 61-67; column 9, lines 36-44 and exhibited in figure 13; wherein switch sw performs the function of "carrying out switching" and capacitor C1 reads on "a D.C. cut-off capacitor".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. ***Claims 7 and 8*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson in view of Jenness.

Regarding **claim 7**, Williamson discloses everything claimed as applied above (see claim 2), however, Williamson fails to disclose confirming means for confirming whether or not a communication partner has the cut-off frequency switching means, in advance of sending and receiving of communication data. However, the examiner maintains that it was well known in the art to provide confirming means for confirming

Art Unit: 2644

whether or not a communication partner has the cut-off frequency switching means, in advance of sending and receiving of communication data, as taught by Jenness.

In addition, Jenness discloses a device for communicating across a communication line. Further, Jenness discloses control processor 14 for determining whether or not the ATU-R has the control processor, in advance of sending and receiving of the ADSK data, which reads on the claimed "confirming means for confirming whether or not a communication partner has the cut-off frequency switching means, in advance of sending and receiving of communication data", wherein the control processor 14, which reads on the claimed "confirming means", sends state transitions on the ib 18, indicator bit, used to advertise the ATU-C's capability to support the use of the low frequency spectrum, and upon detection of these state transitions, the ATU-R, which reads on the claimed "communication partner", then waits for the ib18 information bit to indicate the idle state of the subscriber loop, and then transmits a composite signal in the low frequency spectrum; detection of the signal, which reads on the claimed "confirming", at the ATU-C provides confirmation of the ATU-R's capability to support the use of the low frequency spectrum via control processor (114), in advance of sending and receiving ADSL data, as disclosed at column 12, lines 6-56 and exhibited in figures 1, 2 and 4.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Williamson by specifically providing confirming means for confirming whether or not a communication partner has the cut-off frequency switching means, in advance of sending and receiving of communication data, as taught

by Jenness, for the purpose of providing optimum transmission of DSL data without interference from the POTS data.

Regarding **claim 8**, Williamson and Jenness discloses everything claimed as applied above (see claim 7), however, Williamson fails to disclose wherein the confirming means is structured such that switching control of the cut-off frequency switching means is carried out in accordance with results of confirmation. However, the examiner maintains that it was well known in the art to provide wherein the confirming means is structured such that switching control of the cut-off frequency switching means is carried out in accordance with results of confirmation, as taught by Jenness.

In addition, Jenness discloses wherein the control processor (14) of ATU-C is structured such that synchronization at the beginning of actual data flow using the added low spectrum frequency capacity of control processor (14) is carried out in accordance with the results of detection of the composite signal, which reads on the claimed "confirming means is structured such that switching control of the cut-off frequency switching means is carried out in accordance with results of confirmation", wherein the control processor (14) reads on the claimed "confirming means"; synchronization reads on claimed "switching control"; control processor (14) reads on claimed "cut-off frequency switching means"; and detection of the composite signal reads on the claimed "results of confirmation", as disclosed at column 12, lines 45-56 and exhibited in figure 4.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Williamson by specifically providing wherein the

Art Unit: 2644

confirming means is structured such that switching control of the cut-off frequency switching means is carried out in accordance with results of confirmation, as taught by Jenness, for the purpose of optimum transmission of DSL data without interference from the POTS data.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferey F. Harold whose telephone number is (703) 306-5836. The examiner can normally be reached on Monday-Friday 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JFH

March 19, 2004